

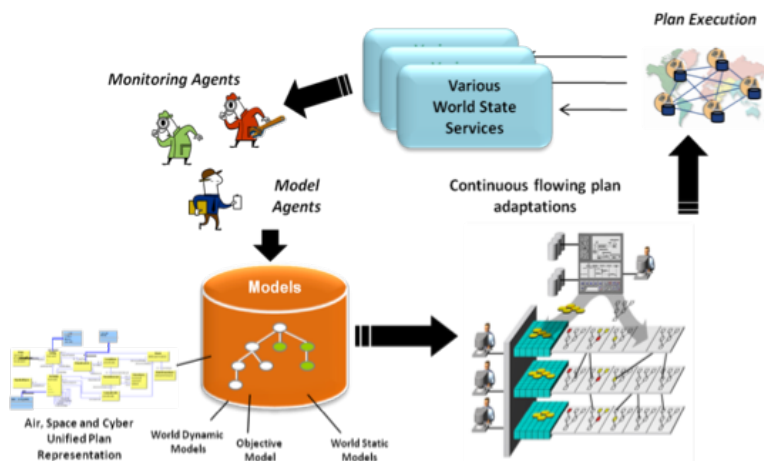


Proactive Plan Maintenance (PPM)

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The Proactive Plan Maintenance in-house program explores the feasibility of a “living plan development” utilizing agent-based concepts and technologies.

The living plan concept is a planning methodology that will facilitate and dynamically update operational plans according to the evolving world state. Automatic triggers linked to world state sources will alert leaders and operation center planners to changes in critical conditions that warrant a reevaluation of a plan’s continuing relevancy, feasibility, sufficiency, or risk. The living plan concept would mean a shelf plan would no longer sit idle after creation, but instead adapt to changes in world state.



An AFRL/RI team of engineers is applying new methods to the integration of the in-house multi-agent case-based reasoning planning domain with external DARPA research in the area of model adaptation. PPM also leverages new developments in an integrated plan and model representation as well as the beginning services to conduct synchronized operations across air, cyber and space and reach the concept of an Integrated Battle Plan. Initial research puts the focus on creating living models utilizing agents that monitor the world state to autonomously update models allowing mixed-initiative interaction when needed.

Technology Advancements:

- Automated model updates via agents implemented on a service oriented architecture
- Validation of automated model updates via agents or humans
- Mixed-initiative interaction with the system when needed
- Automated plan validation and replanning when models are adapted
- Allows static planning to become dynamic